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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/981,122	10/17/2001	Li Wu	78035 (20-6 US)	5450

27975 7590 10/15/2003

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EXAMINER

ULLAH, AKME

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 10/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/981,122	<b>Applicant(s)</b> WU ET AL.	
	<b>Examiner</b> Akm Enayet Ullah	<b>Art Unit</b> 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on 17 October 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12 and 13 is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                    | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                           | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>07/03</u> | 6) <input type="checkbox"/> Other: _____                                    |

***Detailed Action***

1. Applicant cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Status of the Application***

2. Claims 1- 13 are pending in this application.
3. If applicant is aware of any prior art or any other co- pending application not already of record, he/she is reminded of his/her duty under 37 CFR 1.56 to disclose the same.

***Drawings***

4. This application has been filed on October 17, 2001 with informal drawings, which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1- 7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pan et al (USPNO. 5,889,904).

7. Pan et al disclose a device collimating a beam of light comprising an optical fiber having a cladding bounding a core (i.e., an inherent that a fiber must have core and cladding where cladding can be an air), a slanted output which clearly shown in figures, a lens which receives an input beam light and a light transmissive element which is a wedge. (Numerals 74& 75).

Regarding claim 2, optical fiber sleeve and optical fiber have parallel longitudinal axes and coplanar surfaces, said end surfaces at a slant with respect to a plane perpendicular to the longitudinal axes mentioned in column 10 where it stated that the coupler has two forward fibers 30, 31 & two output fibers 32, 39 (lines 15-16) and fiber may inserted into the central opening 37& 38 of the sleeves 33 & 36 (lines 22-23).

Regarding claim 3, the light transmissive element is a wedge the numeral 74 is mentioned throughout the references.

Regarding claim 4, the wedge has a slanted surface that is substantially parallel with and facing slanted end surface of the fiber is shown in figures such as figures 6A-6C and 7.

Regarding claim 5, the wedge has an output end surface opposite the slanted surface that is substantially normal to the longitudinal axis of the optical fiber sleeve is shown in figures such as figures 6A-6C and 7.

Regarding claim 6, the wedge and sleeve are held securely within an outer sleeve and wherein the lens and the outer sleeve are relatively immovable which is shown in figures 6-15.

Regarding claim 7, the lens is one of affixed to an end of the outer sleeve and held securely within the sleeve shown in figures such as figures 6A-6C through 15.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teaching of Pan et al for a laser collimator device since applicant has not disclosed that the construction of laser collimators with larger expansions ratios in a compact size solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with to obtain such larger expansions ratios in a compact size of a laser collimator device in pan et al device.

8. Claims 8 - 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Pan et al (USPNO.5, 889,904) in view of Helkey et al (USPNO. 6,483,961).

9. The light transmissive element has two non-parallel surfaces and the element has refractive index is same as the refractive index of the optical fibers core is taught by Helkey et al in column 3, lines 40-50.

10. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teachings of Helkey et al in Pan et al since both references are being directed to a common use in the same environment, there is an implied suggestion for applying the teachings of one to the other. That is, the skilled worker who is pressured to have knowledge of the prior art, with these two references before him, would immediately recognize the desirability of employing the refractive index teachings taught by Helkey et al to the optical device of Pan et al.

11. Regarding claim 9 wherein the optical fiber output end has a numerical aperture greater than the numerical aperture of the input end would have been obvious to one having ordinary skill in the is particular art at the time the invention was made to utilize such differences in numerical aperture since it is known in this particular art i.e., an inherent teaching of the art.

12.

***Objection to Claims, Allowable Subject Matter***

Claim10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13.

***Claims Are Allowed***

Claims 12 -13 are allowed over the prior art as of record.

***Cited Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kunikane et al (USPNO. 5,546,212) and Takubo et al (USPNO> 5,204,711) are cited to show a typical angular deviation on an optical device respectively. Zhu et al (USPNO> 6,580,558) and Yamaguchi (USPNO. 3,534,671) are also cited to show a typical transmissive element as a wedge and sleeve construction in an optical device respectively.

***Conclusion***

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Akm Enayet Ullah whose telephone number is 703-308-4885. The examiner can normally be reached on Monday through Wednesday 5:30 a.m. – 4:00 pm.

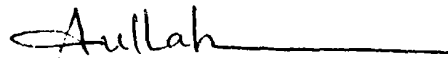
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on 703-3084819. The fax phone numbers for the organization where this application or proceeding is assigned are 703-

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308-7721 for regular communications and 703-308-7721 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

A handwritten signature in black ink, appearing to read "Aullah", followed by a horizontal line.

Akm Enayet Ullah  
Primary Examiner  
Art Unit 2874

AUllah  
September 29, 2003